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ABSTRACT

These proceedings provide a summary of a conference for business and industry representatives, educators, and others concerned with the changing world of work. They present an overview of the over 100 speeches, panel discussions, film and video presentations, displays, participant sharing sessions, and hands-on demonstrations. These presentations are organized around these topical areas: at-risk youth (employment/training programs, teenage parents, student service centers, dropout prevention programs); special needs students (community college programs, learning disabled students); educational policy (integrated curriculum, ERIC, career development programs, applied academics developers and users); technology (computer networks, robotics in education, CD ROM technology); business/education partnerships (apprenticeship programs, state approaches); community college programs (articulation programs, occupational information database); economic development (social security, lifelong learning, the changing work force, career redirections program for adults, drugs in schools and work environments); and the changing work force. Brief summaries of the presentations are provided. (YLB)

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OVERVIEW

Fifth Annual Conference Features Over 100 Sessions

More than 650 people gathered at the Jantzen Beach Red Lion Inn in Portland, Oregon on November 14-15, 1988 for the fifth annual Work Now and in the Future Conference. Participants represented education, business, industry, labor, and government.

The overall themes of the Work Now and in the Future conference series are the changing nature of the modern workplace, changes in the workforce, and the kinds of educational preparation today's young people will require to function effectively in rapidly changing work environments. These themes were explored in over 100 speeches, panel discussions, film and video presentations, displays, participant sharing sessions, and hands-on demonstrations.

The conference featured an array of keynote and general session speakers from private and public agencies.

Topical areas around which this year's sessions were organized included: youth at risk, special needs students, educational policy, technology, business/education partnerships, community college programs, economic development, and the changing workforce.

The conference featured an array of keynote and general session speakers from private and public agencies, who shared their perspectives on the needs and responsibilities of both sectors. Among these featured speakers were *Jaime Manzano*, senior advisor for Manpower Resources and director of the Office of Strategic Planning of the Social Security Administration; *Moya Lear*, chief executive officer of the Lear Corporation; *David Stoddard*, fleet flight manager and captain B767 for United Airlines; *Chuck Austin*, vice-president for personnel at United Parcel Service; *Sue Berryman*, director of the National Center on Education and Employment at Columbia University; author/entertainer *Shari Lyn Rusch*; local Portland television personality, *Bob the Weather Cat*; *Bill Daggett*, director of the Division of Occupational Education Programs of the New York State Education Department; *Lowell B. Catlett* of the Agricultural Economics Department at New Mexico State University; *Barry K. Spiker* of Honeywell Industrial Automation Systems Division in Phoenix; and *Mary Wendy Roberts*, commissioner of the Bureau of Labor and Industries for the State of Oregon.

While the majority of conference participants were from the Northwest Region, some two dozen people travelled to the conference from other states and territories, including the Pacific islands.

Approximately half the conference participants were secondary teachers or counselors. Other professional roles included: community college personnel (10 percent); state government agency personnel (9 percent); administrators and school board members (8 percent); JTPA and other human resource organizations (6 percent); and state and federal program staff members (5 percent). Education Service District staff, business and industry representatives, higher education personnel, federal government agency staff, representatives from nonprofit organizations, research and development agency personnel, and staff of proprietary schools each made up 3 percent or less of the total. (See Appendix B.)

Work Now and in the Future 6 is scheduled for November 8-9, 1989.

Joining with NWREL in sponsoring this year's conference were the Education Commission of the States, the ERIC Clearinghouse on Vocational & Adult Education, the National Alliance of Business, and the National Center for Research in Vocational Education at The Ohio State University.

Participant evaluations indicate a very positive response to this year's conference (see article on page 26).

Work Now and in the Future 6 is scheduled for November 8-9, 1989, and will be held once again at the Red Lion Inn at Jantzen Beach in Portland.
-- *Kathleen Cotton, NWREL*

KEYNOTERS

"Building a Quality Workforce" Highlights Opening Session

The opening session of the conference, "Building a Quality Workforce," took its name from both a recent federal publication and from a National

Alliance of Business video highlighting major points from that publication.

Ben Brown, Region X administrator for the Department of Labor, introduced a slide/tape presentation on workforce issues and discussed current projects of the Department of Labor.

Ed Singler, Region X administrator, Office of Human Development Services of the Department of Health and Human Services, briefly discussed issues faced by today's young people. In particular, Singler spoke of the high dropout rate and praised such local activities as the Portland Investment and the Governor's Retention Initiative, which are aimed at keeping young people in school.

These commentaries were followed by a presentation given by *Jaime Manzano*, senior advisor for Manpower Resources and director of the Office of Strategic Planning of the Social Security Administration (SSA). Manzano noted that the SSA has 63,000 employees and the fifth largest budget in the world.

Manzano: Social Security has adequate funds in its reserves to keep beneficiaries covered for the next 75 years.

Manzano presented a slide/tape illustrating strategic planning within the SSA and its relevance to other spheres of life. He described strategic planning as a process in which those developments which are judged to be likely in the future are used as the basis for planning in the present.

Between now and the year 2000 the number of people working and supporting each Social Security recipient will be reduced by half. Manzano pointed out, however, that the SSA has adequate funds in its reserves to keep beneficiaries covered for the next 75 years.

Manzano spoke of the SSA's current and future data processing capabilities, saying that in the future, SSA beneficiaries might be able to get their payments from ATM machines located in banks and stores.

The presentation ended with a brief discussion of the impact of technology on the workforce and projected increases in productivity resulting from the use of this technology. -- *Kathleen Cotton, NWREL*

Lear Corporation Leader Shares Highlights of Colorful and Challenging Life

"Meeting Challenges" was the title of the luncheon speech delivered by *Moya Lear*, CEO of Lear Corporation and widow of inventor/businessman/entrepreneur, Bill Lear. Lear offered highlights from her life with her husband Bill, which included several spectacular business successes and equally spectacular failures.

The daughter of Ole Olson of the Olson and Johnson comedy team, Lear met her husband-to-be in 1938. In their early years together Bill Lear developed such innovations as the car radio and the automatic pilot device, which earned him the Collier Award, the highest award in aviation.

Lear had the undivided attention of her listeners as she described the events surrounding the development of the Learjet, which was first flown in 1963 and is still a very successful and much-used aircraft.

She went on to describe the $17 million loss their corporation incurred trying--and failing--to develop a clean-burning engine. This failure was followed by the development of the very successful Lear Star 600 aircraft sold to Air Canada.

Lear: "You don't know what your capacity for achievement is until you're challenged."

Lear has strong ideas about marital relationships and quoted the song "Be Thankful for the Things He's Got" from the musical *South Pacific* to make the point that it is important for couples to focus on one another's strengths rather than flaws.

When Bill Lear was dying of leukemia, he expressed the wish that his wife continue the projects they had started. Lacking business experience and technical knowledge, Lear found that her strengths lay in such areas as motivating her company's workforce and helping meet their needs so as to enhance productivity. "You don't know what your capacity for achievement is until you're challenged," says Lear of her assuming responsibility for the Lear Corporation. She encouraged listeners to work on self-respect as an important first step to success.

On the occasion of the first flight of the Lear Corporation's innovative graphite plane, Lear reworked the lyrics of the song "If They Could See Me Now" from the Broadway show *Sweet Charity*, and sang it to the group assembled to witness the

flight. She sang this rewritten version, called "If Bill Could See Me Now," for conference participants at the close of her speech. Lear's presentation won her a standing ovation. -- *Kathleen Cotton, NWREL*

UPS Success Due to Attitude Toward Employees

Insights into the transportation/distribution industry were provided by *Chuck Austin*, vice president for personnel at United Parcel Service, during his presentation, "United Parcel Service: Determined People Working Together." Austin's comments were illustrated by a series of slides.

Austin informed listeners that UPS was founded in Seattle in 1907 by 19-year-old entrepreneur Jim Casey and his teenage employees. Casey promised his customers the best service at the lowest prices and kept that promise; UPS continues in its efforts to keep that promise to customers.

Austin: UPS is the largest package delivery company in the world, delivering more than 10 million packages per day.

UPS expanded to New York in 1920 and continued its expansion to other U.S. cities in the 1930s and 1940s. UPS's safety programs, maintenance programs, systems, and services set the standard for the transportation/distribution industry. UPS also devotes considerable attention to its image; the appearance of UPS employees and vehicles is considered very important and standards are established and enforced.

UPS is the largest package delivery company in the world, delivering more than 10 million packages per day. The company employs more than 200,000 people, has a fleet of 94,000 vehicles, and has approximately 1,500 operating locations. The fastest-growing segment of UPS's business is its air service. The company operates the largest jet cargo fleet in the world, with 115 jet aircraft in service or on order. This makes UPS the world's eighth largest airline. UPS provides pickup and delivery service among 41 countries in Western Europe and the Pacific Rim. In 1988 UPS revenues topped $11 billion.

By way of explaining UPS's spectacular success, Austin shared with listeners that the company's greatest corporate asset is its employees. "We build our organization around people" is a basic UPS policy. Austin stated, "We try to assign responsibilities and duties to secure the full benefit of an individual's talents and abilities, and to provide each person with an opportunity to develop further."

Austin went on to say that UPS management recognizes the importance of supporting the schools in their efforts to prepare today's students for entry into the workplace of tomorrow, especially given the company's need to compete in today's global economy.

In closing, Austin said, "Our company is on the verge of a new frontier--sending packages across international borders as quickly as across state lines. But unless we can count on a qualified workforce now and in the future, we will not be able to compete." -- *Kathleen Cotton, NWREL*

Education/Employment Analyst Discusses Future of Vocational Programs

Sue Berryman, director of the National Center on Education and Employment at Columbia University, touched on a variety of topics as she shared her perceptions about the future of secondary vocational education. Her presentation was titled, "Education and the Economy: What Should We Teach? When? How? To Whom?"

"Jobs are becoming dead-end, because people are becoming dead-end by lack of education," stated Berryman, who went on to say that the modern world and technology are changing much faster than the education today's children are getting.

Berryman: "Jobs are becoming dead-end, because people are becoming dead-end by lack of education."

There are four things that today's students need to learn, said Berryman. These are: 1) the economy and its changes, 2) computers, 3) visual learning, and 4) literacy skills. All children need to learn these things, noted Berryman, and they need to start early; high school is too late. --*Wendy Maddox, Rex Putnam High School*

Banquet Features Shari Lyn Rusch and Bob the Weather Cat

The Monday night banquet sponsored by the Oregon Council of Career and Vocational Administrators was followed by two very different and very engaging presentations.

The featured speaker was *Shari Lyn Rusch*, a University of Washington student and author of the

book, *From Stumbling Blocks to Stepping Stones*. Rusch enlightened listeners about the world of people with learning disabilities by sharing her experiences of school and personal life as a learning disabled person.

Rusch: The social losses of untreated learning disabilities are great.

Rusch described the nature of her learning disabilities, which include difficulties processing visual, auditory, and spatial information. While she encountered many barriers, chiefly people who lacked faith in her abilities, Rusch also received a great deal of encouragement from caring teachers and family members. With their support, she was able to experiment, determine which approaches to learning worked for her, and use these to master the material in her courses. Techniques which worked well for her, and which often work well for learning disabled students in general, include the use of flashcards, tapes, a great deal of repetition, sitting in front in classroom settings, and seeking out quiet environments in which to study.

Rusch currently travels a great deal, speaking at schools and in other settings about the problem of learning disabilities and the kinds of support learning disabled students need in order to succeed. She reminded listeners that the social losses of untreated learning disabilities are great; that the frustration and failure generally experienced by learning disabled students can lead them to become antisocial and involve themselves in drug abuse and criminal activity. The learning disabled student may also go in the opposite direction, seeking to deny his/her handicap and become an overachiever.

School factors which can help learning disabled students to succeed include: high teacher expectations, warmth and encouragement from teachers and administrators, teacher identification of students' strengths and knowledge of how to use them, praise, and giving students responsibility.

Rusch is a talented singer, and as part of her presentation sang two songs whose lyrics relate to her struggles and successes: "Stubborn Love" and "I Will Survive."

Following Rusch's presentation, banquet attendees were treated to a visit from *Bob the Weather Cat*, who has been on Portland television station KATU for three and one-half years. Bob was accompanied by his owners, KATU cameraman Robert Foster and his wife, and another KATU employee.

Foster: Bob [the Weather Cat] has received more than 6,000 letters from all over the world.

Bob's claim to fame is the cheerful indifference with which he allows himself to be dressed in an array of outfits, which are in keeping with current weather conditions and/or holidays, when he appears as part of KATU's Friday night weather report. Foster and his companions had Bob model a number of these outfits during his banquet visit.

Foster told the audience that many of Bob's outfits have been made and contributed by viewers. Bob has a great many fans and has received more than 6,000 letters from all over the world. Foster is often asked whether Bob is sedated. No, he said, explaining that Bob is just unusually willing to wear clothes and to stay quietly in one place for a long period of time.

Bob has appeared in *National Geographic World* magazine, *People* magazine, and a supermarket tabloid, as well as appearing at the Portland opening of the musical *Cats*.

Foster said that taking Bob on public appearances creates opportunities to remind people to take good care of their cats and other pets. -- *Kathleen Cotton, NWREL*

New York Vocational Education Director Focuses on Technology in Tomorrow's Workplace

Tuesday morning's opening presentation, "Vocational Education: Where Are We Headed?" featured speaker *Bill Daggett*, director of the Division of Occupational Education Programs at the New York State Education Department.

Daggett: Major issues to be addressed by the next wave in the educational reform movement include the labor shortage and the impact of technology.

Daggett told listeners that he believes the first wave of educational reform studies and efforts have not met the expectations of the American people. This first wave has tended to focus on returning educational practices to an imagined, untroubled past. In this romanticized version of the past, schools were characterized by rigorous academic standards, and school dropouts were not a problem. Attempts to move the education system backward to this romanticized view have not been successful.

Daggett expects a second large wave of reform activities within the next 18 months and says that one of the major activities in this effort will be an educational reform group convened by President George Bush. Major issues to be addressed by the next wave in the educational reform movement include the labor shortage and the impact of technology.

Daggett praised the series of Work Now and in the Future conferences as highly relevant to current and future educational reform activities.

By 1990, 25 percent of all working hours will be spent keyboarding.

Much of the rest of Daggett's presentation concerned the impact of technology. He bemoaned the inefficiency of the standard typewriter/computer keyboard, noting that the Dvorak keyboard increases keyboarding efficiency by 37 percent. This is important, he said, because futurists predict that by 1990 , 25 percent of all working hours will be spent keyboarding.

Daggett then exposed listeners to a series of what he called "bad stories"--illustrations of the conflict between what we want to achieve in our role as educators versus what we want in our roles as parents and others who are concerned about the welfare of children and young people in our country. He called attention to the conflict inherent in our modern global economy: Lower wages in other countries make it most feasible to use foreign workers for many of the tasks we want performed; yet most of us hold aspirations for our children to earn better than the wages offered by most of the kinds of jobs likely to be available in our increasingly service-oriented economy.

Daggett concluded his presentation by itemizing for participants the skills that will be needed in tomorrow's workplace. These include: skills in the "basics" of reading, writing, and computation, along with skills in keyboarding, data manipulation, problem solving/decision making, systems of technology, resource management, the economics of work, human relations, applied math/science, and career planning. By way of illustration, Daggett described his own five children and pointed out that, as different from one another as they are in their abilities and interests, they will all need skills in these areas in order to be successful in tomorrow's job market. -- *Kathleen Cotton, NWREL*

Economist Envisions a Future of Technologically Engineered Changes

Artificial intelligence, genetic engineering, and other futuristic concerns were the subjects of the conference presentation of *Lowell B. Catlett*, staff member of the Agricultural Economics Department of New Mexico State University.

Catlett told listeners that the rate of change during the next 20 years will be 500 times as rapid as that taking place within the past 20 years. Within the realm of artificial intelligence, there will be more than a half million robots serving humankind by the year 2000, with over 33,000 different applications. Holograms, says Catlett, will be valuable teaching tools, with holographic cadavers used in medical education and holograms of historical figures used to teach history.

Catlett: The rate of change during the next 20 years will be 500 times as rapid as that taking place within the past 20 years.

Genetic engineering is a major scientific frontier, noted Catlett. The U.S. Patent Office now allows registration of genetically altered life forms. Catlett spoke of the beneficial effects of genetic engineering, such as producing micro-organisms which will eat PCBs, arsenic, dioxin, and other harmful chemicals, producing edible products in the process. Catlett also speculated that diseases such as schizophrenia, other mental illnesses, and alcoholism, which result from genetic problems, could presumably be eliminated, and noted that removal of the genes which cause aging has been shown to double the lifespan of rats in experimental conditions.

Catlett cited numerous other examples of the ways that technologically engineered changes will radically alter the way we learn and live our lives. His comments about research into the possibility of male pregnancies stirred up considerable audience response.

The use of new technologies will be driven by the profit motive and the humanitarian impulse.

In his breakout session, Catlett continued his discussion of the impact of technology, pointing out that, in order to be useful, technology has to be accessible and people need to be willing to accept and use it. In this connection, he cited the use of

technology by the Japanese and the greatly increased productivity which has resulted from this use.

The use of new technologies will be driven by two factors, says Catlett: the profit motive and the humanitarian impulse (to work on eliminating disease, for example). Technological advances are likely to widen the gap between the "haves" and the "have nots" in our society, unless we take specific steps to change this.

Catlett concluded his presentation by advocating the use of what he called "dream teams" in schools, business, and other enterprises. A dream team is a group which researches new ways of doing things and prepares plans to present to the leader of the system. Presenting new ideas which have been well researched and thought through, says Catlett, greatly increases their likelihood of being accepted by the CEO, administrator, or other leader.
-- *Kathleen Cotton, NWREL*

Wrap-Up Session Features Private and Public Sector Speakers

Kent McGuire, Director of the Finance Collaborative and senior policy analyst for the Education Commission of the States in Denver, facilitated the final conference session. Titled, "Where Do We Go From Here?" the session featured *Barry K. Spiker* of Honeywell Industrial Automations Division in Phoenix, and *Mary Wendy Roberts*, commissioner of the Bureau of Labor and Industries for the State of Oregon.

Spiker offered educators a private sector perspective on the workplace of tomorrow and its needs. Spiker opened his presentation with some predictions offered by futurists of the past--predictions which were utterly incorrect, often because they were too conservative. Spiker then talked about changes in the workplace that will be brought about by demographic shifts and by the influence of technology.

Spiker: "People don't accept or resist technology; they accept or reject the way technology changes their lives."

The phases people go through when experiencing change were discussed in some detail by Spiker. He noted that physical change (the behavioral requirements of a new way of doing things) can be achieved more quickly than intellectual change (comprehending the necessity for the new way), and that emotional change (true acceptance of the new way) takes even longer.

"People don't accept or resist technology; they accept or resist the way technology changes their lives," said Spiker. He then cited the various ways that technology changes people's lives, including the requirement for new skills; alterations in communication patterns; reduced timespans between communications; alterations in the locus of influence, authority, and control; changes in roles, work relationships, and reporting responsibilities: changes in data ownership; increases in concern about one's personal situation and security; and changes in management techniques and organizational structures.

Mary Wendy Roberts then spoke from the perspective of a public agency representative. She listed the themes she had heard referenced repeatedly throughout the conference: demographic shifts in the workforce, technological advances, the global context in which we now operate, the need to emphasize conceptual skill building and higher-order thinking skills in our education and training programs, day care issues, and a needed change in attitude toward vocational education--from its "less than" status to a more respected position.

Roberts: "We need a national strategy for education and training in this country. We do not have it."

"We are in an ocean of change," said Roberts, who emphasized that those in the public sector have a responsibility to change their attitudes about education so as to be more focused on outcomes.

Roberts praised the conference organizers and participants for their clarification of the needs of tomorrow's workplace and the kinds of educational preparation students need to be ready for it. She closed her presentation by saying: "We need a national strategy for education and training in this country. We do not have it." -- *Kathleen Cotton, NWREL*

AT-RISK YOUTH

Employment/Training Programs Assist At-Risk Youth

A panel of presenters discussed economic issues in the session, "Economics of Youth Employment: Emerging Realities." *Dennis Cole*, president of The Private Industry Council (Portland), opened the session by sharing disturbing statistics on the relatively small amounts of federal money expended on education as compared with expenditures for defense or space research. He went on to remind listeners that women, who are generally the heads of single-parent families, still earn less than 70 percent of what the average man earns. Moreover, reported Cole, only about half of all divorced fathers pay child support.

Cole: Reading, mathematics, and communication skills are now mandatory in the workplace.

Cole also noted that today's jobs are requiring a higher level of skills, and thus workers need more education and training to be prepared for them. Reading, mathematics, and communication skills are now mandatory in the workplace. Today's youth must adapt to the changes in workplace requirements. The consequences for failing to adapt are clear: people will find themselves without employment, and the "underclass" will grow.

High school dropout rates are also disturbing. The rate in Los Angeles is 60 percent; in Boston, 50 percent; and in Portland, 25 percent. Working to solve this problem, Portland has several programs designed to address issues of education and employment for disadvantaged youth. Three such programs were represented at the session:

- STEP (Summer Training and Education Program) increases employment skills and reduces school dropout rates. STEP provides 90 hours of reading, math, and computer instruction to participants over the summer.
- YEI (Youth Employment Institute) also improves employability skills. Fifty-five percent of the participants are from minority groups. YEI is a reality-based learning program which provides an individualized, support-based curriculum to help dispel students' negative images of the traditional learning environment.
- The Career Pathways program works with 40 high school seniors from the Portland Public Schools who are identified as at risk of school failure, providing them training and instruction to help them graduate and then enroll in higher education, a training program, or enter full-time employment.

-- *Kristin Everett, Mt. View High School*

Minority Student Success Requires Improved Cultural and Personal Self-Images

Michael Grice from the Evaluation Department at Portland Public Schools presented a session titled, "Minority Student Successes." Grice opened this session with the statement that minority students are "disabled" because they must deal with an identity crisis. American education is geared toward whites and their European background.

Asian-Americans, Afro-Americans, and Native Americans are overlooked, and their identity needs are ignored in this process. This may be the reason why more minorities are termed "at-risk" youth.

There are programs that deal with and attempt to alleviate these pressures. One is called Project SEED. A high school teacher from Berkeley, California, started this program to improve the self-image of minority children. He taught a relatively advanced level of mathematics to elementary grade students. Success at this advanced level increased the students' self-confidence and gave them a more favorable impression of themselves.

Grice: American education is geared toward whites and their European background. Other groups are overlooked and their identity needs are ignored.

Grice believes that it is "incumbent upon communities to develop their own programs." It is the administrators' and teachers' responsibilities to be aware of whom they are educating. It is the parents' and students' responsibilities to take advantage of and be involved in opportunities they may receive through the educational system.

-- *Kathy Bylsma, Mt. View High School*

Teenage Parents Need Understanding, Information, and Resources

Helping pregnant and parenting teenagers make sound decisions and access needed services

was the subject of the presentation, "Teen Parents: Ingredients for Successful Decision Making." The presenter was *Francie Lindner* of NWREL, who until recently was involved in conducting research and curriculum development regarding teenage parents at the Vocational Studies Center at the University of Wisconsin-Madison.

Lindner: Successful programs for these young people focus on helping them to see the importance of active decision making and learn how to make good decisions.

Lindner noted that teenage parents often make decisions by default, that is, by not taking an active role in decision making about their own and their children's lives. Successful programs for these young people focus on helping them to see the importance of active decision making and learn how to make good decisions.

Those seeking to help pregnant/parenting teenagers, said Lindner, need to be aware of the factors which impinge on their live--the biological changes and social forces that affect adolescents, as well as the ethnic influences, socioeconomic factors, and family circumstances which affect each individual.

Pregnant and parenting teenagers face an array of difficult decisions. A pregnant teenager has to decide whether to have her baby or to get an abortion. If the decision is to have the baby, the parent(s) must face the decision of whether to keep it or give it up for adoption. If the decision is to keep the baby, then the parent(s) must decide whether to stay in school or go to work. Decisions about transportation and child care also need to be made. Such decisions are challenging even for adults, and are potentially overwhelming to young, inexperienced people, said Lindner. Comprehensive programs for pregnant/parenting teenagers can help them access the information and help they need.

Lindner cited the components needed in order for programs for teenage parents to be truly helpful. These programs need to offer instruction in basic skills; provide career and vocational education; utilize alternative curricula; offer activities to build self-esteem; provide health-related information and services, such as nutrition, inoculations, and parenting skills; and especially, provide for child care and transportation. -- *Kathleen Cotton, NWREL*

Student Service Centers Help Keep Adolescents in School

The Student Service Centers in the Portland Public School District provide a way to coordinate the planning, delivery, and monitoring of social services to at-risk middle school students. A presentation about the centers was provided by *Pat Burk*, principal at Ockley Green Middle School in Portland, Oregon.

Burk: Administrators and selected teachers formed a roundtable to set the criteria and to set up a "watch" for at-risk students.

The criteria for at-risk students relate to academics, attendance, and behavior. Also in the criteria are physical/health problems or psychological/emotional problems.

The pilot program was established at Ockley Green Middle School. Here, the administrators and selected teachers formed a roundtable to set the criteria and to set up a "watch" for at-risk students. They are told to watch for factors such as poor self-esteem, suicidal tendencies, or repeated poor behavior with peers.

Students judged in need of help are referred to appropriate sources, including: 1) Multnomah County Mental Health; 2) consulting teachers and counselors; 3) nurses and social workers; or 4) the North Portland Student Service Center, which provides family intervention services and coordinates services, placements, and relationships with outside agencies.

The middle school dropout prevention program is still in its pilot phase and is expanding to the rest of the school district. Educating the community on the needs of at-risk students can also help lower the dropout rate. -- *Ed Bisquera, Mt. View High School*

Constructive Involvement Key to Successful Middle School Dropout Prevention Program

Paige Knight, a counselor at Portland Impact Southeast Youth Service Center, presented the session "Middle School Dropout Prevention." She focused primarily on the youth service center's Leadership and Dropout Prevention Project funded by the Fred Meyer Charitable Trust through the 1988-89 school year.

The program, which serves seventh- and eighth-grade students attending Hosford and Sellwood

Middle Schools, both in inner Southeast Portland, is designed to prevent at-risk middle school students from dropping out of school.

Students are selected for the program through referrals by school personnel. Participants are academically failing, have irregular attendance, and/or have been suspended from school. They are students whom the schools believe have leadership potential which needs to be positively channeled for them to succeed.

Knight: "A third of the kids who drop out do so between eighth grade and the first month of high school."

The goals of the leadership program include: institutional change that will prevent at-risk students from dropping out; leadership activities and opportunities for at-risk students that will allow them to realize their leadership potential in the school and community; support services necessary to keep at-risk students involved in school and the project; and support of students in their transition to high school so as to reduce their alienation from society and school.

These goals are accomplished through such activities as meetings with the school principal to discuss school policy, environmental clean-up projects, family counseling for drug and alcohol abuse if necessary, and support services for a year after the student has gone on to high school. "We stress the positive and try to get the kids involved in a constructive way," commented Knight.

Some of the effects of the leadership program include higher participant self-esteem and attitude changes toward peers; school flexibility with schedule changes for some students such as late arrival, half days, and class changes; positive acknowledgement from school for changes and improvement; less fighting; more parental involvement; more community service; and fewer disciplinary actions.

Knight believes the elements crucial to a successful program include counselor commitment to be easily accessible, the school's belief in leadership potential of at-risk youth and willingness to support institutional change, and a focus on the youths' positive attributes rather than their deficits.

"A third of the kids who drop out do so between eighth grade and the first month of high school," said Knight, "It's not just a high school problem."

-- Kimberly White, Sherwood High School

SPECIAL NEEDS

Pennsylvania Community College Programs Serve Special Needs Students

Meeting the domestic and employment skills needs of the mentally handicapped and mentally retarded population was the theme of two related conference sessions. These sessions presented information on "Pennsylvania's Answer to Vocational Training for Special Needs Students."

Guercio: Approximately 60 classes for mentally retarded and mentally handicapped people are offered at Allegheny College.

In the first session, *Mary Jo Guercio* of the Community College of Allegheny County in Pittsburg began by telling participants that some 60 classes for mentally retarded and mentally handicapped people are offered at the college.

Guercio told participants that Allegheny's employment training programs have a variety of funding sources and that nearly all of the program's 300 staff members (mostly part-time) are supported by grant monies.

Guercio went on to say that the successes achieved by the Allegheny programs are due to the fact that they are: (1) task oriented, (2) competency based, (3) realistic, (4) job specific, (5) clear in their goals and objectives, (6) specific in their time frames, and (7) in compliance with the college's curriculum guidelines.

The continuing education and homemaking skills programs were briefly described by Guercio. Participants receive certificates of completion at the end of their classes; college credit is not awarded. Courses cover a wide range, including cooking, astronomy, bowling, and physical fitness.

In the homemaking skills program, a part-time coordinator and 17 part-time instructors visit residential settings and instruct mentally retarded students in domestic skills.

Imhoff: Eight out of ten practicum students are taken on as paid employees.

Donna Imhoff, assistant director of the college's Community Services Division, outlined the employment training programs in janitorial/housekeeping, food service, and human services aide skills. In addition to their instructors, participating students

receive services from an academic placement instructor, who helps them build skills in areas such as interviewing and resume writing. Program staff also provide services such as mobility instruction, assistance in getting access to the help they need from support programs, and help finding suitable housing and getting needed medical services.

In lieu of paper-and-pencil tests, students have midterm and final evaluation reviews with school staff, agency representatives, and parents or guardians. As part of their coursework students participate in practicums at employer sites. Usually nonpaid, these practicums are closely supervised by program staff, and employers participate in weekly evaluations.

Employers are often initially resistant to having the special needs students at their sites, said Imhoff, but the practicums have been very successful, and eight out of ten practicum students are taken on as paid employees.

The Office of Vocational Rehabilitation requires that 75 percent of program participants be placed in jobs following their training, and the Allegheny program has had no problem meeting--and, in fact, exceeding--this expectation during its eleven years of operation.

In the course of her presentation, Imhoff shared several touching and inspiring stories about program graduates. -- *Kathleen Cotton, NWREL*

Handicapped Students Found Dependable, Productive

Margo Izzo, program associate at the National Center for Research in Vocational Education, The Ohio State University, discussed various posteducation alternatives for handicapped students in the session titled, "Vocational Education's Role in School-to-Work Transition for Students with Disabilities."

Izzo: 'Supported competitive employment is less expensive than an adult workshop or adult day program."

Izzo pointed out the importance of the school's involvement with an employment program for these students: although these programs can initially seem expensive, they are a good investment when their cost is compared to the cost of disabled persons being dependent on the state when they are not employed. Izzo noted that "supported competitive employment is less expensive than an adult workshop or adult day program."

Izzo went on to cite the three critical elements in the transition period from education to employment: early intervention; interagency collaboration; and systematic, interdisciplinary, multiagency planning.

A video shown during the session stated that most mentally disabled people want to work. However, many Americans do not know how to deal with mentally retarded people.

A good vocational education program prepares individuals for work, including specific training; provides basic skills; places the students in work settings; and works with local agencies. Successful programs have positive benefits for employers, such as stronger management teams and open communication. Disabled workers are usually dependable, reliable, and productive. -- *Kimberly White, Sherwood High School*

Learning Disabled Students Need Tailored Instruction

Encouragement is the key ingredient for learning disabled children. *Shari Lyn Rusch*, who shared part of her story at Monday night's OCCVA banquet, presented additional information during the session, "Stumbling Blocks to Stepping Stones: Perspectives from a Special Needs Client."

Rusch: It is often necessary for learning disabled students to read or hear information five to ten times before it is understood.

Rusch, a college student from Kenmore, Washington, discussed several factors which are important when working with learning disabled people. She maintains that constant repetition is important in helping learning disabled students to retain the information being taught, and that it is often necessary for such students to read or hear information five to ten times before it is understood.

Rusch was accompanied by *Dennis Kampe*, assistant vocational director for Clark County Vocational Skills Center, Vancouver, Washington; and *Margo Izzo*, program associate at the National Center for Research in Vocational Education, The Ohio State University, Columbus, Ohio. Together, these presenters provided suggestions for those who work with learning disabled students:

- Give the information to the student and then provide a lot of praise and encouragement, because these students experience a great deal of frustration during the learning process.

- Provide a quiet, distraction-free learning environment, because learning disabled students generally are easily distracted.
- Have the student sit in the front of the room to help filter out some of the distractions.
- Present the information in a song or some word pattern.
- Allow the student to use some method of covering the words on the page to be read except the line that is to be read.
- Teach the student basic life skills—how to deal with life and the systems of this world.
- Assess the student to determine which programs and instructional methods would provide him/her the greatest success.
- Provide learning experiences that are applied, contextual, and hands-on, so that they can use more of their senses and see a reason for learning the information.

The recurring theme of this workshop was that the teacher is essential in building the self-esteem and respect within the learning disabled student. -- *Carolyn Tift, NWREL*

EDUCATIONAL POLICY

Eugene Vocational Educator Outlines Integrated Curriculum

Vocational educators in Eugene are in the process of developing an integrated core curriculum for the area's high schools. Details on this effort were provided by *Joe Garrison*, teacher on special assignment for Vocational Education in Eugene. Garrison's presentation was titled, "Vocational Education: An Integrated Approach for Eugene."

Garrison: The integration effort has required redesigning vocational clusters based on job market analysis.

In keeping with the priorities established by a local high school reform group, vocational educators are currently working to establish a core curriculum in the areas of human services, technology, and business education. Components of the core curriculum include providing equivalency credit in math, science, English, and social studies; improving the educational delivery system, specifically by including more hands-on activities for students; encouraging the development of long-term student goal-setting and planning; developing basic skills for entry-level employment; and achieving integrated programs in all four area high schools. The integration effort has required redesigning vocational clusters based on job market analyses.

Garrison shared with listeners that the child care program is housed in a facility designed by students from the architectural design program in collaboration with the University of Oregon School of Architecture. Teenage parents whose children are cared for in the center are able to visit their children between classes and also to attend parenting classes at the child care facility.

The Center for Applied Technology is a magnet program where students interested in careers in technological areas pursue learning activities in four different tracks, with the choice of track depending on the student's intentions following high school--four-year college, trade school, community college, or immediate entry into the job market. A fifth track for special needs students is under development. Efforts are also underway to include advanced science courses for gifted students at the Center. Assistance with this program will be available from the University of Oregon and Oregon State University, and local high-tech industries will be offering apprenticeships to participating students. -- *Kathleen Cotton, NWREL*

ERIC Provides Information Services for Educators

Susan Imel, director of the ERIC Clearinghouse on Adult, Career, and Vocational Education, shared information on ERIC services in a session called "ERIC: What the Clearinghouse Can Do For You."

ERIC—The Educational Resources Information Center—operates a series of clearinghouses which contain digests, documents, and other printed information. There are clearinghouses on Handicapped and Gifted Children, Higher Education, Junior Colleges, and many more topics.

The computerized ERIC database has been referred to as a "national treasure," providing a unique source in the field of education. From 1966, it has provided access to English-language educational literature and is a source of items of historical significance.

Imel: User contributions continue to keep ERIC the 'world's largest database of education literature."

ERIC contains many kinds of materials, including: 1) descriptions of promising practices, 2) lesson

plans, 3) worksheets and educational games, 4) curriculum guides, and others. ERIC contains more than 50,000 titles. Users can also submit documents on educational topics. User contributions to ERIC continue to keep ERIC the "world's largest database of education literature."

The ERIC digests are short reports (1,000-1,500 words, one or two pages in length) on topics of current interest in education. They provide overviews of information on given topics, plus references to more detailed items. These digests are available in printed form or microfiche. The addition of CD-Rom has enabled more people to access the ERIC database. -- *Ed Bisquera, Mt. View High School*

Career Development Programs Help Students Make Sound Choices

"The new workplace demands a variety of skills, such as teamwork, problem solving, and so on, which are much different kinds of skills than we've seen in the traditional manufacturing society," said *Nancy Hargis*, executive director of the Oregon Occupational Information Coordinating Committee. Hargis's comments were made in the context of her presentation on the "National Career Development Guidelines."

Giving effective guidance and career counseling, by following a set of validated guidelines, is the aim of the four demonstration programs set up in schools nationwide by the National Occupational Information Coordinating Committee (NOICC).

Hargis: 'Preparation of students for the 'real world' comes out on top every year in the polls of what parents want out of the education system."

"NOICC set up demonstration grants in several states to develop models of how local institutions use the guidelines to evaluate and improve their own programs," explained Hargis. "They can take our basic guidelines and their real everyday situations and meld them into a program that they can use to help them deal with these problems, as well as the particular population they are working with."

The importance of investment was stressed by Hargis. "Career development is sometimes difficult to sell when there are a variety of problems and conditions in agencies or schools, but the need to invest in current career information is so very important. Some of the textbooks in the schools are so old that they are virtually useless. Old information is worse than no information, in my book."

"Preparation of students for the 'real world' comes out on top every year in the polls of what parents want out of the education system," said Hargis. "Parents need to understand that program guidelines will not only help them deal with the career development needs of their child, but also perhaps their own needs."

These guidelines and programs are offered on five different levels: elementary, middle schools/ junior high, high school, postsecondary, and human service agencies (job training and so on.)

"When budgets get low, the first things to be cut are counselors, career information, and resources that aren't seen for how important they really are," Hargis said. "I think through career-based programs we can refocus the energies of counselors to doing those things for which they are truly trained. Also we can help build evidence to show voters, the administration and so on that their skills are being used in the way that most benefits the whole resource team." -- *Brenda Hodgen, Milwaukie High School*

Occupational Education Programs Outlined

During a standing room only session, *Bill Daggett*, director of the Division of Occupational Education Programs at the New York State Education Department, gave suggestions on how schools in the Northwest could model their occupational programs after those in New York that he played a key role in instituting.

Daggett: 'Technology is changing the lives of our children."

Focusing on the innovative program required of all students in New York, he reviewed the ten basic skills needed for success in the job market. The New York curriculum is built on basics, data manipulation, keyboarding, systems of technology, economics of work, applied mathematics, problem solving and decisions, resource management, human relations and career planning.

"Technology is changing the lives of our children," Daggett commented. He stressed the importance of the New York programs as *occupational* education rather than vocational or basic education. It is his belief that occupational and academic training are one and the same.

The core courses in the New York program are built on keyboarding, home and career skills,

introduction to occupations, technical education, specialized training, and general education. At the end of fourth grade students begin keyboarding.

"You can't market a product if the public doesn't want to buy it," Daggett added. He believes that vocational education in its traditional sense wasn't working. He encouraged listeners to reevaluate their educational objectives. -- *Kim Kindler, Mt. View High School*

Applied Academics Developers and Users Exchange Ideas

The session "Updates on Applied Academics" was presented by *Bennie Lucroy* from the Agency for Instructional Technology in Bloomington, Indiana, and *Cassy Jordan* from the Center for Occupational Research and Development in Waco, Texas. These are two independent organizations which have found common benefit in collaboration in the development and use of applied academics. The presenters emphasized the value of networking.

The development of Principles of Technology involved 47 states and two Canadian provinces.

Principles of Technology, one of the instructional programs developed, is used in secondary schools, offered as a "pre-tech" program in community colleges, and by some businesses as a step in retraining. The development of PT involved 47 states and two Canadian provinces. It is now being revised through continued collaborative efforts.

Much of the session was a question-and-answer exchange involving the presenters and those familiar with applied academics programs.
-- *John Mahaffy, NWREL*

TECHNOLOGY

Computer Network Increases Educational Provisions in Rural Areas

In "EDUNET: Montana Meets Rural Needs," *Lynne Alexander* explained how students can be taught and receive instruction via computer. Alexander, a teacher at Helena High School in Helena, Montana, said, "EDUNET was designed to provide rural high school students opportunities that city or urban high school students usually have."

The word EDUNET is derived from EDU of education and NET of network. EDUNET is set up throughout 27 rural communities in Montana. The services this network provides range from English courses to Spanish to accounting. Through the computer, individualized education can be available on a limited education budget.

Alexander: "Interactive education through telecommunications and computers is the new wave in the education of students in the future."

EDUNET was set up in Montana because of major financial problems, the increase in high school education requirements, and the lack of specialized education in small rural schools. When enrollments are as small as 100 students, it becomes impossible to hire specialized teachers.

From each school, an EDUNET-trained teacher acts as a facilitator, assisting students through the telecommunications process. The teacher, located centrally in Helena, then quizzes and instructs the student through the computer. The teacher sends the final exam, randomly chosen by the computer, to the student at the end of the course.

"Interactive education through telecommunications and computers is the new wave in the education of students in the future," concluded Alexander. -- *Ed Bisquera, Mt. View High School*

Research Chemist Outlines Synthetic Membrane Development

During the session "Synthetic Membranes and the Workplace of the Future" *David J. Edlund*, chemist at Bend Research, Inc. (BRI), made his audience more familiar with the uses of synthetic membranes in industrial research.

"We don't really have a product," said Edlund about BRI. "If there is a product that we sell, it is paper. We send out reports on projects, and we send out proposals to promote our business."

BRI manufactures membranes in two different forms for research purposes. One is flat sheet, "much like Saran Wrap," and the other is hollow fiber, "much like miniature straws." The membranes are made from a plastic material and act as filters. BRI uses the membranes in three divisions: Controlled Release, Separations, and Bioprocesses.

"The Controlled Release branch uses technology very similar to membrane separation technology," said Edlund, "in that a polymer film is used to control the rate of the release of biologically active agents. They are now working with insecticides as well as pharmaceuticals for humans."

The Separations Division is the largest and most diverse, according to Edlund. "They are mainly concerned with pollution control, energy production through artificial photosynthesis, and basic separation technologies," he said. "They can do things such as separate water from exhaust or alcohol from beer, and so on."

Edlund: "Counselors can help students more by letting them know what types of classes are needed in order to have a better rounded education."

Finally, the Bioprocesses Division works on mimicking nature's biology. "This division deals with membrane reactors, biosensors, and so on to mimic nature," said Edlund. "Right now they are working on blood processing. The membrane method will separate glyserol, which is put in blood as an antifreezant when blood is frozen, from frozen blood in less time and more efficiently than the current centrifuge method. Also, the membrane is disposable and will always be sanitary."

Edlund concluded with the fact that although most employees at BRI are scientists of some sort, they also must have a grasp of areas other than their field of specialization.

"My major is in chemistry, but I still need to know about chemical engineering, biology, and more," he stressed. "We really need to know how to communicate with other corporations or clients in order to do business. I think at the high school level counselors can help students more by letting them know what types of classes are needed in order to have a better rounded education. I really believe that too often students don't know what will be expected of them when they enter the working world." -- *Brenda Hodgen, Milwaukie High School*

OMSI Outreach Specialist Discusses/ Demonstrates Robotics in Education

"OMSI Travelling Show--Robotics" was the title of the presentation given by *Jim Todd*, outreach specialist with the Oregon Museum of Science and Industry (OMSI). Todd told participants that "Robotics" is one of several travelling programs provided by OMSI staff to schools and other organizations throughout the western states. Robotics activities are geared to students in grades K-6.

In a short video, children were shown actually assembling a robot with circuitboards and wheels and operating it by remote control. The social impact of robots is discussed with students attending robotics sessions, said Todd, along with information about career opportunities in engineering, electronics, and education.

Todd then took session participants through an activity--the assembly and use of a "paperbot" arm. Participants learned robotics concepts, such as "home," "work envelope," and "degrees of freedom." During the course of the activity, Todd explained how the exercise can be used in different curricular areas.

Todd: "Robotics" is one of several travelling programs provided by OMSI staff to schools and other organizations throughout the Western states.

Last summer OMSI sponsored for the first time a robotics camp for students seven to 16 years old. Participants spent 24 hours in class over several days. At the end of this time, each student was able to take home a working robot he or she had assembled.

Todd concluded his presentation by showing participants some robots and kits used by OMSI robotics instructors and instructors in some technology programs. These included "Robbie, Jr.," which retails for about $50.00, and a "Lego-Technic" kit, which interfaces with LOGO or BASIC programming language and enables students to learn about machine functions. --*Kathleen Cotton, NWREL*

Applied Biology/Chemistry Course Under Development

Presenter *Cassy Jordan* began the "Applied Biology/Chemistry" workshop with the phrase, "Change is a process, not an event." Jordan, who is with the Center for Occupational Research and Development (CORD) in Waco, Texas, noted that by the year 2000 jobs will need more and more people with knowledge of both biology and chemistry. The need for educational programs that provide this knowledge will be very important for the jobs of the future. Technologies with major economic importance in the future will be biotechnology—working to make "super" plants and animals—and advanced

synthetic materials—"super" products. One movement to supply these demands for prepared workers is the movement for applied academics. Applied academics includes the proposed course of Applied Biology/Chemistry.

Jordan: The course will focus on gases, solids, liquids, elements, life processes, and bodily health.

Applied Biology/Chemistry is in conceptualization stages right now. This course would be an integration of biology and chemistry. It is intended to provide lifelong learning skills and is hoped to encourage education past a high school degree by interested high school students in the biology and chemistry fields.

The main topics of Applied Biology/Chemistry, says Jordan, will be blood, sex, and dinosaurs. Within these general topics, the course will focus on gases, solids, liquids, elements, life processes, and bodily health.

The equipment needed for this course is part of the fundamental teaching processes already used. Necessary equipment includes a text, videos, labs, and problems and exercises to evaluate the student's knowledge.

CORD does not plan to design the program for a specific grade level. Rather, they want the course to be aimed at the competency level of the students. The estimate of when the student would probably be ready for Applied Biology/Chemistry is ninth or tenth grade. CORD is shooting for a one-year program, and the projected cost of it will be no more than $10,000. -- *Kathy Bylsma, Mt. View High School*

Automotive Training Program Prepares Technicians in Classrooms and on the Job

The focus of "Growing Your Own Technician" was the Automotive Service Educational Program (ASEP). This successful program, pioneered by General Motors, was presented by several different speakers.

Bob Benedict, manager of the GM Training Center in Tigard, Oregon, began by introducing a graduate of the ASEP program, *Tim Russell*. Russell described his experience as an ASEP student and how the program affected him. The service director of the GM dealership that sponsored Russell, *Bob Wells*, commented on the growing demand for technicians and "the need to attract fresh blood." With the expanding uses for computer technology in cars today, more and more trained technicians are needed for their special skills in maintaining these computers.

Students spend alternative semesters in classrooms and labs at the campus, and then as apprentices with their dealership sponsors.

ASEP coordinator *Gary Nelson* and Area Service Manger *Perry Stevens* then stepped up to explain the two-year program that trains GM technicians. The ASEP program has been incorporated into several public institutions including Portland Community College in Portland, Shoreline Community College in Seattle, and the College of Southern Idaho in Twin Falls. Students spend alternative semesters in classrooms and labs at the campus, and then as apprentices with their dealership sponsors. The dealership that sponsors them will finance their education.

The ASEP program offers many benefits. In two years, a degree as a technician is achieved. The student receives work experience and hands-on training as an apprentice and is guaranteed a job with the dealership after finishing the educational program. -- *Kathy Bylsma, Mt. View High School*

CD Rom Technology to Become Commonplace

Application possibilities of CD Rom technology were explored in a session presented by *Abby Black*, education support specialist for Tandy Corporation. Black was assisted by *Barbara Reed*, also from Tandy Corporation.

According to Black, by the year 1995, CD Roms will be standard equipment in the workplace. The Rom can hold 550 megabytes of readable data. This means it could replace 270,000 pages of read-only information, 70 hard disks, and 1,500 floppy disks. This vast storage could be made available for approximately $1,000.

Black: By the year 1995, CD Roms will be standard equipment in the workplace.

According to Black, "any data that can be represented digitally" can be transferred to CD Rom. She demonstrated uses of a dictionary, encyclopedia, zip code dictionary, almanac, and quotation finder all held in the memory of a CD

Rom. All can be found on a Microsoft bookshelf, which runs about $300. At atlas is also available for approximately $1,000.

Black cited Boeing, Hewlett-Packard, Bill Copp Auto Dealership, Tacoma Public Library and the Seattle Poison Center as institutions already taking advantage of CD Rom technology. -- *Kim Kindler, Mt. View High School*

BUSINESS/EDUCATION PARTNERSHIPS

State Labor Commissioner Outlines the Role of Apprenticeship Programs

Offering better employment training to women, minorities, and immigrants is both a "should be" and a "has to be," said Oregon Bureau of Labor and Industries (BLI) Commissioner, *Mary Wendy Roberts*. Roberts's conference presentation was called, "Partnership Trends: Perspectives from a State Labor Commissioner."

While providing better employment opportunities to previously disenfranchised groups is an important social goal, Roberts pointed out that it has become an economic necessity as well. These groups are a rapidly growing percentage of the labor force, and if they do not enter skilled trades and crafts in greater numbers, the United States will be facing a serious shortage of skilled workers within the next few years.

Roberts: We need to work to counteract negative messages, in order to attract the people we need in skilled occupations.

Roberts noted that people are often discouraged from entering crafts and trades for reasons such as viewing these occupations as inappropriate for women or holding "snobbish" opinions about blue-collar employment. We need, says Roberts, to work to counteract these negative messages in order to attract the people we need in skilled occupations.

Postsecondary training is becoming more and more essential for getting a good job, says Roberts. Males 18 to 24 years old with only high school education earned (adjusting for inflation) 28 percent less in 1986 than in 1973, and the decline in income was even greater for those not finishing high school.

Looking at other countries, Roberts remarked that the Japanese invest much more heavily in education and training of their workforce than the United States does. She also noted that 60 percent of German young people go through apprenticeship programs, while only one percent of American youth do so.

Roberts whimsically refers to apprenticeship as "Montessori for adults"; that is, like Montessori programs, apprenticeship activities enable people to learn by doing, to make use of various learning modalities, and to experience a very low student-teacher ratio. Apprenticeship programs also allow people to use the latest technology and experience an occupation as it really is, so as to make informed decisions about whether they truly wish to pursue it over the long term.

The operations of the apprenticeship programs managed by the BLI were briefly described by Roberts; nearly 4,000 people currently participate in apprenticeships in the state. She then referenced the document *Apprenticeship 2000*, which she and other labor and industries leaders recently prepared. The document outlines a national strategy for apprenticeship programs to strengthen the United States's position in the global economy. *--Kathleen Cotton, NWREL*

California School/Business Partnership Council Highlighted

Examples of innovative partnerships involving schools and businesses were provided during the session, "Enlightened Business-Education Partnerships." The presenter was *Steve Trippe*, director of the youth employment project New Ways Workers in San Francisco. Trippe is also a consultant to the Industry/Education Council of California (IECC), which helps to support and coordinate the activities of 32 regional councils throughout the state. The IECC performs three major functions in the area of school-business partnerships: 1) advocacy--the IECC attempts to influence how the money made available by business is spent on education; 2) development--the IECC develops new business education partnerships; and 3) dissemination--the IECC provides information on business-education partnership models for use by regional councils.

Trippe noted that schools entering into partnerships with businesses often ask only or primarily for financial support. IECC members, however, have found that associations between schools and the business community are more effective when there is greater reciprocity.

What kinds of activities do "enlightened" partnerships pursue? Trippe gave a variety of examples, including:

- Programs such as the Youth Employee Motivation Program and the Youth Motivation Task Force, which motivate young people to stay in school and become interested in career options. These programs provide speakers in eighth and ninth grade classrooms, arrange for students to visit workplaces, and provide training and training materials.
- Programs that offer incentives. In some partnership arrangements students are given part-time jobs provided they stay in school. IECC members assist these partnerships with activities such as job development, screening, and matching businesses and schools.
- Programs in which business people become involved in the planning, development, and evaluation of curriculum units.
- Programs in which businesses provide human resources to schools. In some programs people from business and industry go into teaching during their last few years before retirement without losing retirement benefits.

Trippe cited a number of specific programs in which schools and businesses are working together to benefit students. -- *Kathleen Cotton, NWREL*

Business/Education Partnership Projects Detailed

The session "State Approaches to Business/Education Partnerships" provided the opportunity for several presentations on partnership arrangements in Oregon and elsewhere. Presenters were *Virginia Thompson*, special assistant to the chancellor, Oregon State System of Higher Education; *Ted Coonfield*, assistant project director of the Oregon State Student Retention Initiative; *Marilyn Johnston*, community liaison with the Business/Education Partnership Project in Salem, Oregon; and *Lynde Paule* of the NWREL Evaluation and Assessment Program.

One program which was discussed was New York's SABA. SABA is the School and Business Alliance. SABA was built to keep students from dropping out of school and to increase their job potential.

Presenters shared with participants seven steps to building a community/business/education partnership program. These include: 1) making a start-resource gathering, 2) designing a working structure, 3) establishing an identity for the program, 4) nurturing, 5) selecting a project, 6) evaluating the partnership results, and 7) sharing your success with others. -- *Wendy Maddox, Rex Putnam High School*

COMMUNITY COLLEGES

Articulation Programs Enable Secondary Students to Earn College Credits

Janine Moothart, coordinator of Career and Vocational Education at Chemeketa Community College in Salem, Oregon, and *Peter Scott*, director of Science/Technology at Linn-Benton Community College in Albany, Oregon, presented the ideas on "Cross-Community College District Articulation." They summarized how articulation programs got started in Oregon and how they can be expanded to work in other areas.

Moothart: It is important to design the program with respect to student needs.

Articulation is a structure that allows students enrolled in special high school classes to earn college credits. Moothart explained how she helped work out the articulation of an agriculture program in the high school to the community college and how they worked this out from region to region. She highlighted steps to get articulation started in districts that don't already have it. Moothart emphasized how important it is to design the program with respect to student needs.

Peter Scott discussed crossing boundaries and working closely with other colleges to set up articulation programs. He outlined the schools involved in an agriculture program. Credits are awarded by Linn-Benton to students who pass with a C or better in a high school articulation program. Scott also explained how this agriculture program will give students both math and science credits toward high school graduation.

Unless the high school teacher has a master's degree, he or she works with the college instructor to award grades to the students in these programs. -- *Chad Daubenspeck, Mt. View High School*

Database Provides Occupational Information for Planning

Nancy Hargis, executive director of the Oregon Occupational Information Coordinating Committee,

presented a session featuring a microcomputer version of the OPPS (Occupational Program Planning System).

The system is designed to help institutional and program administrators plan educational programs, enrollments, and future directions by bringing together data about job training and labor market information, particularly in the Northwest. In general, the system will yield reports of data regarding supply, demand, and analysis of different jobs. While this is a stand-alone system for Oregon, other states have or are creating similar systems. Plans to link the Oregon, Washington, and Idaho databases are close to implementation.

A particular occupational area can be searched in the database by CIP or DOT codes, or by job title. Once located, information can be displayed showing current employment, estimated number of new jobs, number of replacement openings, estimated unemployment, and other factors. The state employment service provides data to the system which shows the number of job applications, job orders, and ratios of applications to orders, along with the average wage, for each job title. However, specific job openings are not listed. In addition, a "supply side" report also can be displayed which indicates which kinds of institutions are doing training in this occupational area.

Hargis: The system is designed to help institutional and program administrators plan educational programs, enrollments, and future directions.

The real value of the system is in short- and long-term planning; the system is not intended for career planning for individuals.

Beyond specific job titles, reports can be generated which show the percent of unemployment for an occupation by industry, and the distribution within an industry.

The system comes on floppy disks designed to run on IBM or compatible microcomputers with hard disks. The proprietary software program D Base III or III+ is currently required and not included with the disks. A soon-to-be-released version will stand alone and not require a separate database program for operation. Currently, there are 800 occupations and 175 training programs in the database; all occupations listed are cross-referenced by the way they are listed in the telephone book yellow pages. Nonprofit organizations can receive the disks free of charge from the state, while for-profit organizations are charged $200. Annual updates are planned. -- *John Mahaffy, NWREL*

ECONOMIC DEVELOPMENT

State and National Economic Pictures Highlighted

Ronald Kutscher, associate commissioner of the National Bureau of Labor Statistics and the Office of Economic Growth and Employment Projections in Washington, D.C., began with an overview of the national economy in the session, "Projections 2000—Jobs in the Future."

"One strong point of the American economy is the ability of our economy to generate employment, unlike European countries," said Kutscher. "In West Germany, for example, the projection of employment change from 1986 to 2000 is zero—not the 21 million we have."

Kutscher: The job market is moving further away from the high school dropout every day.

"Of the jobs produced in the next 14 years, 10 million of those will come from service industries" explained Kutscher. "Business services are the most rapidly growing sector, and since one percent of the national output goes to delivering health care to those in their last years, medical services have grown and will continue to grow even more rapidly as well."

Kutscher went on to say that the job market is moving further away from the high school dropout every day, and noted that, up until recently, it has not been too hard for a person with less than a high school education to make good money. Now, he says, the supply of college graduates is making it harder for those with less education to get even a low-paying job.

Chuck Caldwell, chief of research and analysis of the Alaska Department of Labor; *Dave Allen*, OPPS Employment Division in Oregon; and *Cal Crow*, of the Center for Career and Work-Related Education in Washington, then compared the statistics in their states to those at the national level.

"Alaska will have a less than 1 percent growth rate through the year 2000," commented Caldwell. "Our strongest growing industry is expected to be mining, in areas such as oil, coal, and hard rock. On

the other hand our construction, after growing 71 percent in a single year at one point, consists now of one-half of what it was, and it will continue to decline."

Allen, in contrast, indicated that the Oregon economy is booming, with 42,000 new jobs this year. However, he also noted that most new jobs are relatively low paying. "Education needs to be the 'great equalizer'," said Allen. "Employers need skilled labor, and if they don't get it from the traditional sources, they'll get it elsewhere."

Washington's economy has followed much the same route as the national economy, indicated Cal Crow, who went on to discuss the importance of international trade in the Washington economy. "So many goods come through our ports that really affect our whole state. About one in five or six people depend on our international trade, whether or not they work directly in our ports. Trade is the driver of our economy." -- *Brenda Hodgen, Milwaukie High School*

Social Security in the Future

Jaime Manzano was scheduled to give a presentation expanding on what was covered in the opening session. However, since that session was not held, the following interview was conducted instead. Manzano is director of the Office of Strategic Planning and advisor to the commissioner for Manpower Planning/Resources for the Social Security Administration.

Manzano: "We are going to be collecting more revenues than we will have expenditures in Social Security."

Interviewer: Summarize what you just talked about in the first session.
Manzano: I spoke to the strategic planning concepts of SSA and touched on some of the implications in terms of manpower planning associated with the introduction of technology of changing demographics of the United States.
I: You said that Social Security was safe; that people didn't have anything to worry about. How do you substantiate that?
M: Basically, the way I substantiated it is by showing that we are going to be collecting more revenues than we will have expenditures in Social Security, and so we're going to be building up a substantial reserve. This reserve can reach anywhere from 12 to 16 trillion dollars. That is sufficient resources to cover the anticipated expenditures that will come with the "baby boom" coming through retirement.
I: There's been a lot of talk about Health Care. Is that going to be linked to Social Security? Is that going to be an additional service of Social Security?
M: Social Security is a program separate from the Health Care program, but we do do some services for these programs. The two major ones are Medicare and Medicaid and the new legislation called Catastrophic. The new legislation is being interpreted currently and should be available to the public in terms of how it would affect them through the Health Care Financing Administration. Medicare is the coverage that most people over 65 obtain. We do some administrative work, but that is basically a program managed by the HFA, not Social Security.
I: You talked a lot about a new computer network. How new is this satellite you're talking about?
M: That satellite has been operational for at least two years. We have been extending that satellite, putting more terminals on, for the last year. By the end of this year we should have all planned terminals hooked up so they can communicate directly with our mainframe anywhere in the United States. -- *Chad Daubenspeck, Mt. View High School*

Lifelong Learning Seen as Key to Maintaining Competitive Edge

"Jobs don't have futures, people do, and that's an important point that I would like to make here today," said *Bill Levings* of the Washington State Economic Development Board. "The people who are in this conference today will be responsible for carrying businesses into the future." Levings's comments were made within the context of his presentation, "Regional Economic Development: What Does the Future Hold?"

"The single most important factor to maintaining economic competition is our human resources," Levings explained. "Educational and economic development are means to an end, and in the end we seek a better standard of life and quality of living."

Levings: "The most important skill one can have is the ability to learn how to learn."

Levings stressed that what we must do now is "bring people to the ability to compete globally by the year 2000. Things will happen in Japan, for

example, that will affect businesses here in Oregon or Washington."

"We must face competition on two levels: production of high-volume standard products, as well as production of high-volume specialty products," said Levings on the topic of manufacturing. "Manufacturing is not dying," he added, "it's just changing. We have to produce our goals in a more effective manner." The effect of these changes is that "the decision-making process has to change in order to keep up."

Our employers need more skilled employees, according to Levings. "Businesses can't succeed unless they have employees who are smart, are knowledgeable, can think critically about what is going on around them, can solve problems, can work as a team, are willing to take risks, and most of all are competitive."

He added, "Individual employees come and go, but the knowledge and experience must be preserved or the company will die."

"The most important skill one can have is the ability to learn how to learn," said Levings, by way of concluding his presentation. -- *Brenda Hodgen, Milwaukie High School*

THE CHANGING WORKFORCE

Demographic Changes Alter Workforce Composition

Looking to the year 2000, a study done three years ago determined that there is a quantity and quality problem with the entry-level workforce. The number of young entry-level workers is declining, while the number of young disadvantaged people is increasing. This trend brings the quality of entry-level workers down, in terms of how well prepared they are to succeed in employment.

House: Since three-fourths of new jobs require more than a high school education, we should start encouraging further schooling after high school.

These and other statistics were presented by *John House*, area vice president of the National Alliance of Business in Seattle, Washington, during his presentation on the "Entry-Level Workforce."

House noted that part of the problem is that a large percentage of young people are immigrants, many of whom don't speak English. Twenty-nine percent of the people at the age to enter their first jobs are Hispanics or blacks. Together, these groups make up almost half of the entry-level workforce.

During the years 1985-2000 the percentage of females in the workforce is also expected to increase dramatically.

Since three-fourths of new jobs require more than a high school education, we should start encouraging further schooling after high school, according to House.

House described some efforts underway to increase the employment skills of entry-level workforce. --*Wendy Maddox, Rex Putnam High School*

Oregon Businesses Support Employees Through Innovative Practices

How are workplaces changing to accommodate changes in the workforce? This question was addressed by *Camille Preus-Braly*, executive assistant with the Oregon Consortium, a 27-county JTPA program headquartered in Albany; and *Alice Berntson* of the Salem, Oregon, food processing company, Agripac, who is chairperson of the Mid-Willamette Valley Private Industry Council. Their session was titled, "Changing the Workplace for the Changing Workforce."

Preus-Braly shared results of a survey conducted with businesses from the 27 counties involved in the Consortium. Among the innovative practices identified across the businesses surveyed were:

- Construction of a day care center adjacent to the business site
- Development of a voucher system for use by employees for their day care needs
- Four-day work weeks and the option of early or late starting times
- Wellness programs involving cholesterol and blood pressure screening, on-site massages, access to gyms and other recreational facilities
- An array of assistance programs for people with alcohol/drug problems

Berntson/Preus-Braly: If old attitudes persist, people will not take advantage of new policies for fear of jeapordizing their career paths.

In discussing these practices, Preus-Braly and Berntson noted that there are factors which facilitate the development and use of innovative practices and others which function as hindrances. It is

helpful, for example, that employers sometimes receive tax credits for providing child care for employees. Oregon's laws regarding parental leave and substance abuse also open the door for companies to frame supportive policies in these areas.

On the other hand, the rigid scheduling agreements bargained for and won by some unions makes it difficult for parents to solve the day care problem. Berntson and Preus-Braly see a need for collaboration between unions and management to bring about more flexible scheduling. They also noted that companies need to be truly supportive of people who wish to take advantage of innovative arrangements; if old attitudes persist, people will not take advantage of new policies for fear of jeopardizing their career paths.

During the discussion period, participants noted that implementation of similar innovative arrangements in the schools might be helpful in reducing the number of students who drop out. -- *Kathleen Cotton, NWREL*

Career Redirections Program Helps Adults Make Choices, Changes

"Not in his goals, but in his transitions, is man great." This quotation from Emerson was used to open the session titled, "Career Redirections: Yes, There's a Way!" The presenter was NWREL staff member *John Mahaffy*.

Mahaffy: CRA participants learn about the five career change stages of readiness, awareness, exploration, reality testing, and confirmation.

Career Redirection for Adults (CRA) is a series of workshops that show out-of-school adults how to identify and explore career options. CRA participants benefit from the support and strength available from a small group of peers. CRA also teaches ways to overcome the gap between a career goal and the world of work.

The workshops are made up of eight content units. Participants learn about the five career change stages that adults travel through on their way to a new career. These are: readiness, awareness, exploration, reality testing, and confirmation.

CRA was developed by the Northwest Regional Educational Laboratory (NWREL). The existing CRA program evolved partly from another program, NWREL's Experienced-Based Career Education (EBCE). Using EBCE and other materials and activities, NWREL created the workshop series for adults seeking to make changes. CRA participants benefit by acquiring needed information to plan their career changes, learning to focus on skills and interests, gaining the confidence needed to implement their career plans, and practice testing the reality of their career plans. --*Kristin Everett, Mt. View High School*

Speaker Helps People Prepare for Life in "The New World"

"At one time, America was 'the New World.' Now the world is the New World." This quotation from Time magazine set the mood for the conference presentation, "Dvorak and Productivity: The New World Symphony." The presenter was *Doug Stewart* from Tech Touch Systems in Santa Fe, New Mexico, and author of *The Power of People Skills*.

Stewart characterized today's New World as being in the process of developing a political self-identity and experiencing cultural and political conflict. He also spoke of the division of the world's population into "haves" and "have-nots" and of the future shock we all experience as the rate of change accelerates.

The New World has its dangers and problems. Stewart spoke of such modern phenomena as stress-related illnesses and urban violence, particularly that perpetrated by gangs. He cited the outcome of an entry-level exam recently administered to 24,000 New York Telephone applicants: 85 percent failed, indicating the sorry state of many people's literacy and computational skills.

Stewart: The world has changed, and we now function on a global scale.

While many people would like to "go home" to a simpler, safer time, Stewart pointed out that this is not a real option. The world has changed and we now function on a global scale. We need to have "learning to learn" skills, so as to be able to be retrained as needed, and we also need to learn to make appropriate choices from among the bewildering array of possibilities offered us. We also need to develop skill at relating to others in work environments and in our personal lives in order to function more effectively and cushion the "future shock" of living in today's complex and fast-moving world.

The much-referenced shift in the U.S. from a manufacturing-based economy to a service-based one was cited by Stewart, who spoke of the need for

the U.S. to improve its approach to customer service in order to strengthen its position in the global economy.

Stewart noted the danger to our physical and emotional health posed by stress, substance abuse, poor diet, and lack of exercise. He also spoke of the need to strengthen family life and bring about improvements in availability and quality of child care.

Stewart described the activities of Tech Touch Systems in general terms; then gave a more detailed account of one of its creations, "The Racing Game." The Racing Game is a Not-for-Profit Fund project of Tech Touch Systems, which is designed to improve the basic skills of young men by capitalizing on their interest in Indy car racing. Computers and videos are used to assess skills and provide learning activities within a realistic racing context.
-- *Kathleen Cotton, NWREL*

Program Helps Entry-Level Workers Build Job Skills

Chris Olson, research and training consultant with Educational Data Systems in Dearborn, Michigan, offered a presentation titled, "Vincent Van Dough: Overcoming Illiteracy for Entry-Level Workers in the Service Industry."

Basically, Vincent Van Dough is a program that companies use for their workers to improve their occupational and reading capabilities.

The most popular program is Interactive Videodisc Development (IVD). IVD consists of five modules beginning with an analysis of basic skills and ending with a pilot field test that will be evaluated.

Olson ended the session by quoting Ann McLaughlin, U.S. Secretary of Labor: "The day must never come when skilled workers have to be imported. We must never have a worker deficit because we failed as a nation to provide opportunities for excellence in education and training."
-- *Wendy Maddox, Rex Putnam High School*

Speakers Examine Issues of Drugs in School and Work Environments

Conference participants listened to presentations on the economic and social costs of drug/alcohol use in the workplace, issues related to drug testing, and school drug/alcohol policies during the session "Drugs in the Workplace."

Judy Johnson, director of the Western Center for Drug-Free Schools and Communities headquartered at NWREL, opened the session by sharing statistics on drug use/abuse in the schools. Large numbers of students use alcohol, marijuana, hallucinogens, cocaine, and other drugs, and this usage is not confined to any particular geographical area or social class. Johnson also noted that drug and alcohol abuse by teachers is a growing problem in America's schools.

Reavis: An estimated 10 to 23 percent of the nation's workers abuse drugs on the job.

Jim Reavis, an employee assistance program counselor for private industry began his presentation with a reference to an article in that day's *Oregonian* announcing the beginning of widespread drug testing of the nation's transportation workers. Such widespread testing is a sign of the times, said Reavis, who went on to point out that an estimated 10 to 23 percent of the nation's workers abuse drugs on the job. An estimated $60 billion is lost each year due to drug and alcohol use. Reavis described the typical on-the-job drug user as one who is frequently late to work, requests more time off than most employees, is sick more often, has more long absences, files more worker's compensation claims, and has more accidents on the job.

When people are asked to submit to drug testing in work environments, it is usually either as part of pre-employment screening or when there is probable cause to suspect drug or alcohol use (e.g., following an accident or when a worker's behavior is noticeably abnormal). Random drug testing and universal drug testing are less common, but are being conducted more and more. Reavis told listeners that approximately 50 percent of large corporations in the Portland area are currently using drug testing.

Reavis shared with participants information related to the development of workplace policies regarding drug/alcohol use and such matters as supervisor training.

Carol Stone of the Regional Drug Initiative told listeners that the RDI project began two years ago in response to a concern on the part of local policy makers about drug/alcohol abuse in Multnomah and adjacent counties. A Drugs in the Workplace committee identified areas of need for assistance experienced by employers--especially small employers--in the area. The provision of such assistance has become the major role of the RDI, which has developed a series of 10 workshops to help employ-

ers identify performance problems and establish policies.

Stone shared some harrowing statistics about the incidence of drug and alcohol abuse in the workplace, and described both effective and ineffective ways that employers seek to deal with the problems created by this abuse. She then showed a videotape prepared by KOIN-TV in which various drugs-in-the-workplace issues were dramatized. Conference participants engaged with Stone in a discussion of these scenarios.

Judy Johnson concluded the session by itemizing actions that schools can take to address drug/alcohol problems. These included establishing clear policies and enforcing them, engaging parents and community members in drug-prevention activities, and providing training so that teachers and administrators will be knowledgeable about the signs and symptoms of drug/alcohol abuse. -- *Kathleen Cotton, NWREL*

OTHER SESSIONS

Additional Conference Sessions Presented

In addition to those conference sessions described in the foregoing articles, 19 other sessions were also held. Unfortunately, student journalists and staff members were not available in sufficient numbers to attend and document all of these sessions. However, it is important to acknowledge that these sessions were conducted, were well attended, and helped to round out this year's conference offerings.

Additional conference sessions included:

- "Air/Space Lines: A Close Encounter." Careers in the aerospace and airlines industries were highlighted.
- "Office of the Future." State-of-the-art local area network technologies for business and teaching environments were described and demonstrated.
- "Update on Exploring Technology Education Video Project." Another "applied academics" program, Exploring Technology, was described by those currently working on its development.
- "Robotics: From the Work Place to the Middle School." Instructional techniques for introducing middle school students to the world of robotics were highlighted.
- "Learning and Adrenalin: The Racing Game." A game designed to assess participants' reading, writing, and math skills was described. (See also the article titled, "Speaker Helps People Prepare for Life in 'the New World'.")
- "The Oregon Children's Agenda." An overview was provided of this state-initiated project, which is intended to improve the quality of education and of life in general for Oregon's children and youth.
- "Motivating At-Risk Youth: Schools Cannot Do It Alone." Projects that serve the at-risk student population were highlighted.
- "In-Plant Vocational Training in Japan." Japanese approaches to manufacturing and worker training were summarized.
- "Peer Exchange" sessions for counselors, vocational educators, and JTPA/human resource agency staff. Opportunities for networking among people with like occupations was provided.
- "Why Aren't More Women in Technical Education?" Reasons for the dearth of women in technical education were discussed, along with promising approaches to increasing their participation.
- "Student Success Strategies for Community Colleges." Student retention strategies for community colleges in the Northwest region were discussed.
- "The Workforce of U.S. Manufacturing in the Post-Industrial Era." The modern manufacturing workforce and workplace are described, along with ideas for improving technology education in the schools.
- "ANEW: A Nontraditional Model for Nontraditional Women." A training program for women interested in nontraditional employment was outlined.
- "Alternative Futures for Work." Scenarios of three possible futures—involving technological success, economic depression, or social transformation—were presented.
- "Contract Workers: Another Option for the Changing Workforce." Companies' reasons for hiring part-time and temporary workers, and their methods of recruiting and training them, were detailed.
- "Entry-Level Workforce: Issues and Implementation." Researchers presented findings of a study of employers' methods for recruiting/training entry-level workers and their attitudes toward these workers.

- "Cooperative Education in the Northwest." Community college staff members described cooperative education programs for general and special populations.

-- *Kathleen Cotton, NWREL*

SPECIAL FEATURES

Roundtable Sessions Stimulate Lively Exchanges

Monday afternoon touched off a series of roundtable discussions. During this time, representatives from different organizations conducted discussions around assigned tables, and interested conference participants could visit the table(s) of their choice. The following are some highlights from the roundtable discussions.

Glenn Grandy discussed a program at Everett High School in Everett, Washington, which allows students to keep a greenhouse and to design and carry out beautification projects in the city of Everett. The tab is picked up partly by the city and partly by the school district. The students receive minimum wage for their labor and also science credit from their high school.

During *Doug Stewart's* roundtable discussion on Contextual Learning, few participants were willing to travel to other groups and by the end of the second round, many extra chairs had been drawn to his table.

Wrathall: "For every dollar invested by the government [in Job Corps programs], society receives in return $1.40."

Focusing on the recent shift of emphasis in schools from individual to team learning, Stewart explored many ways in which schools are changing to meet the demands of today's workforce. Giving a student opportunity to participate in a group effort and learn to integrate his/her skills was reviewed as a way to meet the true objective of public education.

Leila Wrathall, Job Corps program coordinator, gave overall information about, "What is Job Corps?"

"Job Corps is a federally funded program which provides room and board for people, ages 16-21, who are engaged in vocational and educational training programs," she explained. "The program is geared for those who come from disadvantaged backgrounds, are in need of vocational training, are high school dropouts, or are high school graduates. The members earn a salary per week or month, depending on their situation, and oftentimes their medical and dental bills are paid for."

Although the Reagan Administration once tried to remove the Job Corps programs, Wrathall says they really add to the nation's economy. "For every dollar invested by the government, society receives in return $1.40, because these people can be employed and can buy things and, therefore, will pay taxes."

Austin: "We [at UPS] don't want individuals dropping out of college for driving."

Officials for UPS were on hand to discuss the future of transportation for UPS. This company operates the most extensive small package delivery system in the United States today. Therefore, UPS is continually looking for stable methods of furthering its technological methods.

Chuck Austin, vice president for personnel at UPS, answered many questions and informed listeners that UPS is not interested in those who lack education. "Of the 90,000 students who begin driving, two out of every three graduate from college, and there is always the chance at UPS for them to move up," concluded Austin. "We don't want individuals dropping out of college for driving."

Participants in the "Career Redirections for Adults" roundtable discussion learned about a series of workshops designed especially for adults with work or career experience who want to assess a current career or life situation. People at this table also discussed other classes that gave them similar experiences and the success that they had with these types of classes. They agreed that CRA requires a commitment, but the benefits are worth it.

-- *Kathy Bylsma, Kristin Everett, and Kim Kindler, Mt. View High School; and Brenda Hodgen, Milwaukie High School*

Videos Cover Wide Range of Topics

The "Hot Buttered Video" center allowed conference participants to preview new videos they might be able to use. The video room was available during small group sessions. Viewers dropped in at their convenience to watch the videos and enjoy popcorn.

Approximately 20 videos were offered, ranging in length from six to 45 minutes. Topics covered in

the videos included Applied Mathematics modules, technical occupations, issues relating to sexuality, drugs, and others.

"Dropout Prevention Works" was the title of one of the videos. This video stated that some inner-city schools have a dropout rate of 50 percent or more. Incentives for students to stay in school, such as parental involvement, a lower student-teacher ratio, and a clearer relationship between the material taught in school and its usefulness to the student in a work situation, were discussed. Specific examples of programs designed to decrease the dropout rate were also included, such as one in San Antonio, where the dropout rate was cut in half.

Topics covered in the videos included Applied Mathematics modules, technical occupations, issues relating to sexuality, drugs, and others.

"About Applied Communications" was an overview of new curriculum still being developed by the Agency for Instructional Technology. This video stressed the importance of workers' ability to read, listen to, and follow directions; write letters and memos; communicate with coworkers; and give and interpret directions.

Two of the more creative videos were "Dropping In: A Film About Dropping Out" and "Teenage Pregnancy: It's Okay to Say 'No Way!'" In "Dropping In," a boy whose friend has convinced him to drop out of school is employed successfully to illustrate why students drop out. "It's Okay to Say 'No Way!'" was a rap by the Rhythm Rappers about a pregnant girl whose boyfriend refuses to take responsibility for the unborn child.

"Futures at Risk" was about youth who fail to make the transition from adolescence to productive adulthood. In the video, 125,000 white, 750,000 black, and 375,000 Hispanic youth were identified as being "at risk"—in danger of dropping out of school. The growing number of at-risk youth will directly affect businesses, which, as the labor pool becomes smaller, will have to hire these youth to fill certain jobs.

Other video titles included: "The Fourth R: Workforce Readiness," "About Applied Mathematics," "About Principles of Technology," "Teenage Parents: Making It Work," "Breaking Out: Career Choices for Teenage Parents," "American Enterprise," "Growing Through Giving," "Attitudes—Goal Setting for Achievement," "Let's Do Something Different," "No Time Soon," "Sex/Decisions—Remember Tomorrow," "Sex, Drugs, and AIDS," and "Skilled Trades and Engineering: Explore the Possibilities." -- *Kimberly White, Sherwood High School*

Vendors Display Many Titles

Some 50 titles were displayed by The Catbird Seat Bookstore, a Portland area retailer. Tables set up in the foyer of the Red Lion provided conference attendees a chance to browse before, after, or between sessions.

Books varied from business to education to self-improvement. Even a few children's books were displayed. According to The Catbird Seat Bookstore employee, manning the booth on both days proved to be enjoyable.

A list of possible titles of interest to those participating in the conference was made available. -- *Kim Kindler, Mt. View High School*

Videotapes, Audiotapes of Sessions Still Available

In the spirit of conducting an experiment, NWREL arranged for several sessions to be videotaped at the WNF5 conference. These videotapes may be purchased for $24.95 (including shipping). Those purchasing five tapes will receive a sixth tape free, and those purchasing all nine of the tapes will receive free second copies of any two of them. The presenters and session titles available on videotape include:

GS1	Jaime Manzano	Building a Quality Workforce
GS2	Moya Lear	Meeting Challenges
GS4	Sue Berryman	Education and the Economy: What Should We Teach? When? How? To Whom?
GS5	Bill Daggett	Vocational Education: Where Are We Headed?
A.4	Ronald Kutscher	Projections 2000-Jobs in the Future
G.1	Dennis Swyt	Workforce of U.S. Manufacturing in the Post-Industrial Era
J.12	Lowell Catlett	Green Cows, Quaggas and Mummies
J.2	Sam Stern	In-Plant Vocational Training in Japan

GS7	Barry Spiker/Mary Wendy Roberts	Where Do We Go From Here?

Order *videotapes* from Office of Marketing and Communications, Northwest Regional Educational Laboratory, 101 S.W. Main Street, Suite 500, Portland, Oregon 97204, (503) 275-9515.

In addition, interested persons may order audiotapes of most conference sessions for $6.00 apiece (two-tape sessions-$12.00). Titles of sessions available on audiotape, include:

GS1	Building a Quality Workforce/Security in the Future
GS2	Meeting Challenges
GS3	Air/Space Lines: A Close Encounter
GS4	Education and the Economy: What Should We Teach? When? How? To Whom?
GS5	Vocational Education: Where Are We Headed?
GS6	Green Cows, Quaggas and Mummies
GS7	Wrap-Up Session
A4.a*	Projections 2000-Jobs in the Future
A5.a*	The Economics of Youth Employment
B2	Minority Student Successes
B3	Pennsylvania's Answer/Continuing Ed Voc Training - Special Needs
B5	Partnerships/Trends-Perspectives From a State Labor Commissioner
B6	Vocational Education: Integrative Approach for Eugene
B7	Synthetic Membranes and the Workplace of the Future
C1	Cross-Community College District Articulation
C2	Applied Biology/Chemistry
C3	Pennsylvania's Answer-Special Ed Setting
C4	Changing the Workplace for the Changing Workforce
C5	Teen Parents: Ingredients for Successful Decisionmaking
E1.a*	Motivating At-Risk Youth/Schools Cannot Do It Alone
F1	ERIC-What the Clearinghouse Can Do For You
F2	Career Redirections: Yes, There's a Way!
F3	Update on Exploring Technology Education Video Project
F6	Growing Your Own Technician
F7	Cooperative Education in the NW
F8	Vincent Van Dough/Overcoming Illiteracy for Entry-Level Workers-Service Industry
G1.a*	Workforce of U.S. Manufacturing in Post-Industrial Era
G3.a*	Drugs in the Workplace
G6.a*	State Approaches to Business-Education Partnerships
H1	National Career Development Guidelines
H4	Robotics: From the Work Place to the Middle School
H5	The Oregon Children's Agenda
H6	ANEW: A Nontraditional Model for Nontraditional Women
H7	Alternative Futures for Work
I.1	Regional Economic Development/What Does the Future Hold?
I.2	CD-ROM Technology
I.3	Student Service Centers: A Middle School Dropout Prevention Success
I.5	New York State's Vocational Trends
I.8	Contract Workers: Another Option for the Changing Workforce
J2	In-Plant Vocational Training in Japan
J3	Entry-Level workforce: Issues and Implementation
J5	Middle School Dropout Prevention
J8	JTPA/Human Resource Agencies-Peer Exchange
J12	More Green Cows and Mummies
J13	Student Success Strategies-Community Colleges
J14	Why Aren't More Women in Technical Education?

*a = two-tape session

Order *audiotapes* from Audio Productions, P.O. Box 22-281, Seattle, Washington 98122, (206) 329-1674.

EVALUATION

High Ratings Given Conference by Evaluation Respondents

An evaluation form was distributed to participants by conference cosponsors. Highlights of responses are presented below.

The highest-rated keynote speakers were *Bill Daggett*, director of the Division of Occupational Education Programs of the New York State Education Department; *Lowell Catlett* of the Agricultural Economics Department of New Mexico State University; and *Moya Lear*, chief executive officer of the Lear Corporation. The breakout session receiving the highest ratings was the robotics presentation offered by *Jim Todd*, outreach specialist with the Oregon Museum of Science and Industry in Portland.

The highest-rated keynote speakers were Bill Daggett...Lowell Catlett...and Moya Lear.

Evaluation form respondents were asked to rate different aspects of the conference as "excellent," "good," "fair," or "poor." *Preconference information* was rated as excellent or good by 93 percent of respondents. *Hotel facilities and meals* were given excellent or good ratings by 94 percent. Ninety-one percent rated the *relevance of the sessions* to their needs and interests as excellent or good. *Vendor exhibits* were rated as good or excellent by 61 percent of respondents. Eighty-one percent of respondents gave excellent or good ratings to *opportunities to meet people with interests similar to their own*. Finally, *understanding of future trends* was given ratings of good or excellent by 98 percent of respondents.

Suggestions for improving the conference covered a wide range. The suggestion which appeared most frequently was that conference planners should find ways to engage greater participation from administrators, academic program teachers, and particularly business and industry representatives. Asked to suggest speakers for future conferences, several respondents recommended bringing back Bill Daggett and Lowell Catlett. Nominations for session ideas included "futurists," more examples of technology, and more information about and examples of business-education partnerships.

"This is my third conference, and each one is better than the last!"

It has become a tradition of the Work Now and in the Future conference series to ask evaluation respondents for comments which we might use in the proceedings document and for publicizing the next year's conference. Memorable quotations from this year's contributors include:

- This conference is OUTSTANDING: I am very appreciative of the efficient preconference information and the excellent array of presentations you put together. Thank you!
- Stimulating and thought provoking; this conference picked me up out of the everyday problems and encouraged me to look ahead.
- I am filled with a sense of urgency.
- This is my third conference, and each one is better than the last!
- I am given opportunities to attend conferences in different areas. I would skip those conferences and use the funds to attend this conference, because the content is more concrete with a clear vision for the future.
- The two staff members I brought with me were amazed at the calibre, the number, and the variety of the presentations available.

-- *Kathleen Cotton, NWREL*

ACKNOWLEDGEMENTS

Conference Success Due to Many Agencies and Individuals

In addition to the cosponsors, presenters, facilitators, and panelists, many other agencies and individuals contributed time, materials, and other resources to the conference. We wish to acknowledge the contributions of:

- The Clark County (Washington) Vocational Skills Center and the Goodwill Muffin Enclave, which provided the muffins and cinnamon rolls consumed by conference participants prior to the beginning of each day's planned activities
- The Mount Hood Community College Jazz Quartet, whose members provided musical entertainment to those present for the Monday evening OCCVA banquet
- IBM Corporation, which made available the office equipment for the automated office demonstration
- Journalism students from Portland metropolitan area high schools, who attended and documented conference sessions for inclusion in this report. Participating students (whose bylines accompany the articles in this report) include: *Brenda Hodgen* of Milwaukie High School in Milwaukie, Oregon; *Wendy Maddox* of Rex Putnam High School in Milwaukie, Oregon; *Kimberly White* of Sherwood High School in Sherwood, Oregon; and *Ed Bisquera, Kathy Bylsma, Chad Daubenspeck, Kristin Everett,* and *Kim Kindler* of Mt.View High School in Vancouver, Washington
- *Jim Buzan*, journalism instructor at Rex Putnam High School and president of the Oregon high school journalism teachers' professional association, who helped coordinate the activities of the student journalists
- *Peter FitzGerald*, teacher from Beaverton, Oregon Public Schools, who helped design conference sessions during a summer internship

arranged by the Washington county Business/ Education Compact
- The Association for Retarded Citizens (ARC) of Washington County and the Association for Retarded Citizens (ARC) of Multnomah County, who helped support the conference attendance of the presenters from the Community College of Allegheny County, Pennsylvania
- The Portland Area Vocational Technical Education Consortium (PAVTEC), who supported the Tuesday morning conference presentation of Shari Lyn Rusch
- NWREL staff members and consultants who helped to plan, organize, and coordinate the conference: conference coordinator, *Tom Barrett,* and secretaries *Adelle Lund, Peggy Vanderbilt,* and *Margaret Hocking*
- The 25 cooperating agencies whose representatives served as session facilitators, helped to arrange for speakers, and assisted with publicizing the conference. Cooperative agencies include:

Apprenticeship and Training Division, Oregon Bureau of Labor
Business/Youth Exchange (Portland Chamber of Commerce)
Center for Career and Work-Related Education
Columbia Pacific Council, Boy Scouts of America
Hawaii Commission on Employment and Human Resources
Idaho State Council on Vocational Education
Idaho State Division of Vocational Education
Oregon Alliance for Program Improvement (OSU)
Oregon Career Information System
Oregon Council of Career and Vocational Administrators
Oregon Counseling Association
Oregon Department of Education, Division of Vocational Education
Oregon Occupational Information Coordinating Committee
Oregon State Advisory Council for Career and Vocational Education
Portland Area Vocational Technical Educational Consortium
Portland Public Schools
U.S. Department of Education, Region X
Washington Federation of Private Vocational Schools
Washington State Board for Community College Education
Washington State Board for Vocational Education
Washington State Council on Vocational Education
Washington State Superintendent of Public Instruction
Washington Vocational Association
WOIS/Career Information System
Work Experience Coordinators of Oregon

APPENDIX A

CONFERENCE AT A GLANCE
Monday Morning, November 14, 1988

8:00-9:00 Registration, Coffee and Rolls--Red Lion Ballroom Foyer

Red Lion West Ballroom

9:00-9:50 Opening Session: Ed Singler & Ben Brown: "Building A Quality Workforce" followed by Jaime Manzano: "Security in the Future"

9:50-10:00 BREAK -- Visit vendors in the Red Lion Ballroom Foyer
Coffee in the Red Lion Ballroom Foyer

	Overton A.1	Flanders A.2	Pendleton A.3	Multnomah A.4	White Stag A.5	Clark A.6	Ballroom Foyer A.7
10:00-12:15	Office of the Future	TBA	Hot Buttered Video	Projections 2000	EDUNET	Economics of Youth Employment	Vendor Displays

	Red Lion West B.1	Burnside B.2	Clackamas B.3	Weyerhaeuser B.4	Crown Z B.5	Pettygrove B.6	Washington B.7
10:00-11:00	Security in the Future	Minority Student Success	Pennsylvania Special Needs	TBA	Partnership Trends	Voc Ed Approach For Eugene	Synthetic Membranes

	Lovejoy B.8	Glisan B.9
	Entry Level Workforce	OMSI Robotics

11:00-11:15 BREAK -- Visit vendors in the Red Lion Ballroom Foyer
Coffee in Red Lion Ballroom Foyer, outside Multnomah Room, Mt. Bachelor Wing, Mt. St. Helens Wing

OR

	Pettygrove C.1	Washington C.2	Clackamas C.3	Burnside C.4	Weyerhaeuser C.5	Crown Z C.6	Jantzen C.7
11:15-12:15	Community College Articulation	Applied Biology/ Chemistry	Pennsylvania Special Needs	Changing the Workplace	Teen Parents	Vincent Van Dough	TBA

	Lovejoy C.8	Glisan C.9
	Entry Level Workforce	OMSI Robotics

CONFERENCE AT A GLANCE
Monday Afternoon, November 14, 1988

12:15-1:30 — Red Lion East Ballroom
Lunch: Moya Lear; "Meeting Challenges"

1:30-2:20

Red Lion West Ballroom		Washington		Multnomah
Dr. Sue Berryman "Education & the Economy"	OR	UAL Captain David Stoddard "Air/Space Lines: A Close Encounter"	OR	Chuck Austin "United Parcel Service"

2:20-2:45 — BREAK — Visit vendors in the Red Lion Ballroom Foyer
Coffee in the Red Lion Ballroom Foyer

2:45-3:35 — Red Lion East Ballroom
Round Table Discussions: Two 20 minute sessions; 26 plus topics — OR

2:45-5:00

Clark E.1	Overton E.2	Multnomah E.3	Glisan E.4	Ballroom Foyer D.1	Pendleton D.2
Motivating At-Risk Youth	Office of the Future	Projections 2000	School To Work Transitions	Vendor Displays	Hot Buttered Video

3:45-5:00

Washington E.1	Lovejoy E.2	Weyerhaeuser E.3	Jantzen E.4	Clackamas E.5
ERIC	Career Redirections	Exploring Tech Ed Video Project	Synthetic Membranes	Dvorak and Productivity

OR

Flanders E.6	Pettygrove E.7	Crown Z E.8	Burnside E.9	White Stag E.10
Growing Your Own Technician	Cooperative Education in the Northwest	Vincent Van Dough	Business/ Education Partnerships	TBA

5:00-6:00 — NO HOST SOCIAL ---- Visit vendors, no-host cocktails in Red Lion Ballroom Foyer
Informal discussions with presenters, complimentary appetizers

6:00 — Red Lion East Ballroom
OCCVA Banquet: Shari Lyn Rusch followed by "Bob, the Weather Cat"

CONFERENCE AT A GLANCE

Tuesday Morning, November 15, 1987

8:00-9:00 Registration, Coffee and Rolls--Red Lion Ballroom Foyer

Red Lion West Ballroom

9:00-9:50 Opening Session: Bill Daggett: "Vocational Education: Where Are We Headed?"

9:50-10:00 BREAK -- Visit vendors in the Red Lion Ballroom Foyer
Coffee in the Red Lion Ballroom Foyer

10:15-12:00

Red Lion West G.1	White Stag G.2	Lovejoy G.3	Pendleton G.4	Clackamas G.5
Workforce of U.S. Manufacturing	EDUNET	Drugs in the Workplace	Hot Buttered Video	Special Needs Client's Perspective

Glisan G.6	Ballroom Foyer G.7
State Approaches to Business/Ed Partnerships	Vendor Displays

10:15-11:00

Pettygrove H.1	Clark H.2	Overton H.3	Multnomah H.4	Washington H.5	Burnside H.6	Flanders H.7
National Career Development	The Racing Game	CD Rom Technology	Middle School Robotics	Oregon Children's Agenda	ANEW: Model for Women	Alternative Futures

OR 11:00-11:15 BREAK -- Visit vendors in the Red Lion Ballroom Foyer
Coffee in the Mt. Bachelor Wing, Mt. St. Helens Wing, outside Multnomah Room

11:15-12:00

Burnside I.1	Overton I.2	Flanders I.3	Multnomah I.4	Washington I.5	Pettygrove I.6	Clark I.7
Regional Economic Development	CD Rom Technology	Student Service Centers	Middle School Robotics	NY State Vocational Trends	MICRO OIS	Vocational Training in Japan

Jantzen I.8
Contract Workers

CONFERENCE AT A GLANCE
Tuesday Afternoon, November 15, 1988

12:15-1:30 — Red Lion East Ballroom

Lunch: Lowell Catlett: "Green Cows, Quagga, and Mummies"

1:30-2:20

Clark J.1	Multnomah J.2	Washington J.3	Pendleton J.4	Glisan J.5	Flanders J.6
The Racing Game	Vocational Training in Japan	Entry Level Workforce	Hot Buttered Video	Middle School Dropout Prevention	Counselors Peer Exchange

OR

Lovejoy J.7	Jantzen J.8	Red Lion Foyer J.9	Clackamas J.10	Burnside J.11	Red Lion West J.12
Voc Ed Peer Exchange	JTPA Peer Exchange	Vendor Displays	Applied Academics	TBA	More "Green Cows"

OR

Pettygrove J.13	Overton J.14
Community College Strategies	Women and Technical Education

2:30-3:30 — Red Lion West Ballroom

Final Session: Barry Spiker and Mary Wendy Roberts: "Where Do We Go From Here?"

3:30 CONFERENCE ADJOURNS

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APPENDIX B

WORK NOW AND IN THE FUTURE 5
Distribution of Attendees by Sectors

	OR	WA	Pacific	AK	ID	MT	Out of Region	Percent of Total	Totals
Teachers, Counselors	141	167	3		2	5		51%	318
K-12 Administrators, Board Members	20	24	1	11			1	8%	47
ESD's	7	3						1%	10
Community College Personnel	38	24					3	10%	65
Human Resource Org., JTPA Locals	30	6					1	6%	37
Industry/Business	10	4					6	3%	20
State/Federal Programs, Councils	10	3					3	5%	16
Higher Education	7						2	1%	9
State Government Agencies	41	14	2	1			1	9%	59
Federal Government Agencies		6					2	1%	8
Non-Profit Organizations	7	1					4	2%	12
R & D Groups	17	2					2	3%	21
Proprietary Schools	1	1							2
	329	255	6	2	2	5	25	100%	624